STRETCH CODE COMPLIANCE - ENERGY CONSERVATION

Effective July 1, 2010, the City of Cambridge has approved the Stretch Energy Code, 780CMR Appendix 120.AA. The requirements are in addition to the requirements of the most recently published edition of the ICC International Energy Conservation Code (IECC).

RESIDENTIAL BUILDINGS

1 & 2 FAMILY – MULTI-FAMILY, 3 STORY OR LESS

Please check all that are applicable -

☐ **ALTERATIONS, RENOVATIONS OR REPAIRS**

- ☐ Proposed work does not access or affect building energy envelop.
- ☐ Roof Replacement – roof insulation values as specified in current IECC.
- ☐ Envelope insulation requirements meet or exceed IECC requirements. (Table 402.1, see reverse)
- ☐ Cavities filled with insulating materials which meet or exceed an R-value of 3.5/inch.
  - ☐ Information and specifications of insulating materials has been included.
- ☐ HERS Index Rating (Performance Option)
- ☐ Work is EXEMPT under 780CMR 120AA 101.4.3 Exception # _____

☐ **ADDITIONS**

- ☐ Energy Star Qualified Homes Thermal Bypass Inspection Checklist
- ☐ Envelope insulation requirements meet or exceed IECC requirements (Table 402.1, see reverse)
- ☐ HERS Index Rating (Performance Option)

☐ **NEW CONSTRUCTION:**

- ☐ HERS Index Rating (Home Energy Rating System, report included)
- ☐ Rating of 65 or less (unit greater than 3000 sq. ft.)
- ☐ Rating of 70 or less (unit less than 3000 sq. ft.)

If using the HERS Index Rating, please include the following information:

RESNET Certified HERS Rater:

Name _____

Address _____

Phone _____

Please include copy of Certification of HERS Rater.

I, the undersigned, certify knowledge and understanding of the energy conservation requirements as enforced by the City of Cambridge, and certify that the above information is accurate to the proposed construction..

Building Owner Signature (1&2 Fam.) _____ Date _____

Contractor Signature _____ Date _____

If work is under design provisions of Sec. 116 780CMR, Construction Control, the following is required -

Registered Design Professional (Multi –fam) _____

Reg. Des. Prof. Signature _____ Date _____

IECC 2009 Table 402.1.1 Insulation and Fenestration Requirements by Component

Fenestration U-value	Skylight U-value	Ceiling R-value	Walls R-value	Mass Wall R-value	Floor R-value	Basement Wall R-value	Slab R-value/Depth	Crawl Space Wall R-value
.35	.60	38	20 or 13+5[1]	13/17[2]	30[3]	10/13[4]	10, 2 feet	10/13[4]

1 - R-13 cavity insulation plus R-5 insulated sheathing

2 – Second R-value applies when more than half the insulation is on the interior of the mass wall.

3 - Or insulation sufficient to fill the cavity, R-19 minimum.

4 – R-10 for continuous insulted sheathing or R-13 cavity insulation at the interior of basement wall.

Roofing Work Energy Requirement -

780 CMR 120 AA 101.4.3 Applicability – Exception 4 requires that un-insulated roofs or walls be insulted to Stretch Code requirements when the sheathing is exposed as part of the re-roofing or re-siding of the building.

Energy Certificate Requirement -

IECC Section 401.3 Certificate – A permanent Certificate shall be posted on or in the electrical distribution panel. The certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall be completed by the builder or registered deign professional. The certificate shall list the predominant R-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement, wall, crawlspace wall and/or floor) and ducts outside conditioned spaces; U factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration. The certificate shall list the types and efficiencies of heating, cooling, and service water heating equipment.

Summary of the Massachusetts Building Code Appendix 120.AA, 'Stretch' Energy Code

Appendix 120.AA known as the Stretch code, was adopted by the Massachusetts Board of Building Regulations and Standards in May 2009, as an optional appendix to the Massachusetts Building Code 780 CMR.

This optional stretch code was developed in response to the call for improved building energy efficiency in Massachusetts. Towns and cities in the Commonwealth may adopt Appendix 120.AA in place of the energy efficiency requirements of the base building code.

In addition, the base building energy code in Massachusetts will be updated in 2010 to the recently published IECC (International Energy Conservation Code) 2009 energy code. The stretch code is similarly based on the IECC 2009 energy code, but with approximately 20% greater building efficiency requirements, and a move towards 3rd party testing and rating of building energy performance.

For further information on the Massachusetts Stretch Energy Code, see the Department of Public Safety/Board of Building Regulations website.

www.mass.gov/dps

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COMMERCIAL BUILDINGS

INCLUDING RESIDENTIAL, 4 STORY OR MORE

Check all that are applicable to the proposed project –

☐ **New Construction** (see over)

☐ **Proposed Work is a renovation or alteration of an existing building and is exempt from Stretch Code requirements. Project will comply with all current IECC requirements.**

☐ **Roof Replacement – roof insulation shall meet insulation values as specified in current IECC.**
780 CMR 120AA 101.4.3 Applicability – Exception 4 requires that un-insulated roofs or walls be insulted to current code requirements when the sheathing is exposed as part of the re-roofing or re-siding of the building.

☐ I declare that the work is **EXEMPT** under 780CMR 120AA Section 101.4.3 Exception #_____

☐ **The following documentation has been submitted with application -**
- ☐ Energy Modeling Report
- ☐ Building Envelop Specifications
- ☐ Lighting Power Density Report (Required for any new lighting installation)
- ☐ Equipment, Testing, and Commissioning Schedule

I, the undersigned, certify knowledge and understanding of the energy conservation requirements as enforced by the City of Cambridge, and certify that the above information is accurate to the proposed construction..

Building Owner Signature _____ Date _____

Contractor Signature _____ Date _____

If work is under design provisions of Sec. 116 780CMR, Construction Control, the following is required -

Registered Design Professional _____

Reg. Des. Prof. Signature _____ Date _____

NEW CONSTRUCTION

COMMERCIAL – RESIDENTIAL 4 or MORE STORY

Check all that are applicable to proposed new construction –

☐ **Buildings Under 5000 ft²** – Exempt from Stretch Code Requirements, but must comply with IECC

☐ **Buildings 5000 ft² – 100,000 ft²** (including residential buildings of 4 or more stories)
☐ Performance Option (120AA 501.1.1 780 CMR)
Energy modeling must show a 20% improvement relative to ASHRAE 90.1-2007 Appendix G
☐ Prescriptive Option (120AA 501.1.4 780 CMR)
Compliant with Ch. 5 IECC, plus Stretch Code requirements plus one of the following -
☐ More efficient heating and cooling equipment ☐ More efficient lighting
☐ Provide at least 3% of the onsite electric load from onsite renewable generation

☐ **Buildings Over 100,000 ft²** (including residential buildings of 4 or more stories)
☐ Performance Option (120AA 501.1.1 780 CMR)
Energy modeling must show a 20% improvement relative to ASHRAE 90.1-2007 Appendix G

☐ **Special case Buildings greater than 40,000 ft²**
☐ Supermarket ☐ Warehouse ☐ Laboratory
Energy modeling must show a 20% improvement relative to ASHRAE 90.1-2007 Appendix G

☐ **Work is Exempt from Stretch Code Requirements** (But must comply with IECC)
☐ Commercial Building less than 5000 ft2 ☐ Special Case Building less than 40,000 ft2

☐ **The following documentation has been submitted with application -**
☐ Energy Modeling Report
☐ Building Envelop Specifications
☐ Lighting Power Density Report (Required for any new lighting installation)
☐ Equipment, Testing, and Commissioning Schedule

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Stretch Code 780CMR 120AA

101.4 Applicability

101.4.3 Additions, Alterations, renovations or repairs

Additions, alterations, renovations or repairs to an existing building, building system, or portion thereof shall conform to the provisions of this code as they relate to new construction without requiring the unaltered portion(s) of the existing building system to comply with this code. Additions, alterations, renovations or repairs shall not create an unsafe or hazardous condition or overload existing building systems. An addition shall be deemed to comply with this code if the addition alone complies or if the existing building and addition comply with this code as a single building.

Exceptions

1. Storm windows installed over existing fenestration.

2. Repairs to an existing sash and frame.

3. Existing ceiling, wall or floor cavities, of the building envelope, exposed or accessible during construction provided that any empty cavities are filled with insulation that meets or exceeds an *R* value of R -3.5/inch.

4. Reroofing or residing over uninsulated roofs or walls where the sheathing is not exposed. (Stretch Code compliance, or proof of compliance, is required for any strip and reroof/reside work. This is a statewide requirement for roofing work, a stretch code requirement for siding work.)

5. Replacement of existing doors that separate conditioned space from the exterior shall not require the installation of a vestibule or revolving door, provided, however, that an existing vestibule that separates a conditioned space from the exterior shall not be removed,

6. Alterations that replace less than 50 percent of the luminaires (lighting fixtures) in a space, provided that such alterations do not increase the installed interior lighting power.

7. Alterations that replace only the bulb and ballast within the existing luminaires (lighting fixtures) in a space provided that the alteration does not increase the installed interior lighting power.